

5 a carrier arrangement constrained to be displaced along the path of the path defining
means, at least once fitted thereto if releasable there from, in a way and in conjunction with
suitable path defining means formation that causes traveller holding position defining means, as
securable to and thus constrained to be displaced via the carrier arrangement once the equipment
is operatively installed and ready for use, to become re-adjusted into a position of reduced
exposure to injury of an occupant of such holding position defining means on moving towards the
leading end of the path of the path defining means, and

10 a locking facility by means of which the carrier arrangement is releasably locked to the
path defining means in a way that at the latest permits its release in response to a pre-established
rate of vehicular deceleration established with such traveller holding position defining means
under conditions of load while the equipment is operatively installed, the equipment, once so
installed and in use, thus causing such traveller holding position defining means, as occupied, to
become released at the appropriate rate of vehicular deceleration if not already subject to earlier
release, resulting in its forward motion under its inertia along the path up to a position of
15 stoppage, as provided along the path defining means, during which forward motion the traveller
holding position defining means becomes adjusted into the position of reduced exposure to injury
of an occupant.

20 17. Equipment as claimed in claim 16 that makes provision for involving traveller holding
position defining means in the form of a seat adjustably held by performing a rearward swivelling
action during forward travelling along the path, as extending appropriately, once the equipment is
in use, the equipment, as installable between such seat and the conventional location of seat
anchoring, when in use thus causing the seat to perform a rearward tilting action on progressing

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5 towards the leading end of the path that is of adequate extent to cause an occupant of the seat to become rearwardly tilted during vehicular deceleration to the extent of at least reducing the whiplash effect owing to such occupant becoming swivelled away from a conventional upright seating position and, in the appropriate case, of reducing the exposure of such occupant to vehicular equipment moving towards the seat under accident occurring conditions.

10 18. Equipment as claimed in claim 17 in which the path defining means is formed to cause at least its leading end to extend along an upwardly extending curve of adequate radius to result in the desired progressive backward tilting of a seat with which the equipment is fitted once
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operatively installed, on the carrier arrangement moving along the curved portion of the path in progressing towards the leading end of the path defining means.

19. Equipment as claimed in claim 18 in which at least the largest portion of the path defining means is formed to define a path that extends appropriately arcuately to cause a seat, once
20 released and with which the equipment is fitted once operatively installed, to commence its tilting action, substantially on commencement of travelling from its locked position towards the leading end of the path.

20 20. Equipment as claimed in claim 19 in which the path defining means is in the form of a railage layout making provision for causing a seat with which the equipment is fitted once operatively installed, to rollably engage against release therewith except when exposed to the appropriate force.

21. Equipment as claimed in claim 20 in which the railage layout provides two adjacently spaced rails installable in adequately spaced relationship to result in each rail being located in opposite seat side edge-region co-acting relationship via the carrier arrangement with a seat with which the equipment is fitted once operatively installed.

22. Equipment as claimed in claim 21 in which the carrier arrangement is in the form of a seat-engaging base fitted along opposite sides with rollers engaging with the rails, at least once the equipment is operatively installed.

23. Equipment as claimed in claim 21 in which the carrier arrangement provides runners engaging rollably to the rails with a seat with which the equipment is fitted once operatively installed, thus co-acting with the rails via the runners by being fitted via its seat base to the runners.

24. Equipment as claimed in claim 23 in which each runner is in the form of a rail engaging formation defining a railage path along an adequate number of oppositely mounted upper and lower rollers to ensure a firm though smooth rollable engagement with its rail.

25. Equipment as claimed in claim 24 in which each runner is fitted with two overhead rollers defining the upper boundary of the railage path and a bottom roller forming the lower boundary.

26. Equipment as claimed in claim 25 in which each runner is in the form of a saddle-like rail engaging formation fitted with cylindrical rollers spaced to define the railage path there along

while the rails present appropriate rectangular end profiles to enable snug engagement of the runners along their rails.

27. Equipment as claimed in claim 21 in which the locking facility is in the form of shear pins releasably locking the carrier arrangement to the rails towards their trailing ends at least once the equipment is operatively installed.

28. Equipment as claimed in claim 21 in which each rail is fitted with a stopper pin defining the position of stoppage there along.

29. Vehicle rapid deceleration related injury-counteracting equipment used in reducing vehicular travelling exposure to injury resulting from rapid vehicular deceleration comprising:

two adjacently spaced rails, installed if not integrally forming part of a vehicle to extend in the direction of vehicular travelling, in adequately spaced relationship to result in each rail being located to co-act along opposite sides of suitably formed traveller holding position defining means as appropriately occupiable,

a carrier arrangement to which the traveller holding position defining means is secured, providing runners engaging rollably to the rails, at least once the carrier arrangement is operatively fitted to the rails if releasable there from, in a way and in conjunction with the rails being suitably formed to cause the traveller holding position defining means, as constrained to be displaced via the carrier arrangement once the equipment is operatively installed and ready for use, to become adjusted into a position of reduced exposure to injury of an occupant on moving towards the leading end of the rails, and

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5 a locking facility by means of which the runners are releasably locked to the rails at least once fitted thereto, for permitting their release and thus the release of the carrier holding position defining means at the latest in response to a pre-established rate of deceleration established with the traveller holding position defining means under conditions of load, the equipment, once in use, thus causing the traveller holding position defining means to become released at the appropriate rate of vehicular deceleration if not already subject to earlier release, resulting in its forward motion under its inertia along the rails up to a position of stoppage, as provided along the rails, during which forward motion the traveller holding position defining means becomes re-adjusted into the position of reduced exposure to injury of an occupant.

10 30. Equipment as claimed in claim 29 in which the traveller holding position defining means is in the form of a seat secured in opposite seat side edge-region co-acting relationship with the runners while being adjustably held by performing a rearward swivelling action in becoming progressively rearwardly tilted during forward travelling along the rails of which at least the

15 largest portion of each extends appropriately and similarly arcuately to permit such swivelling action to commence substantially on release of the seat and progress to an adequate extent, once the equipment is operatively installed and anchored to a vehicular seat anchoring location if not integrally forming part of a vehicle, to cause an occupant of the seat to become rearwardly tilted during vehicular deceleration to the extent of at least reducing the whiplash effect owing to such

20 occupant becoming swivelled away from a conventional upright seating position and, in the appropriate case, of reducing the exposure of such occupant to vehicular equipment moving towards the seat under accident occurring conditions.

31. Equipment as claimed in claim 30 in which each runner is in the form of a rail engaging formation defining a railage path along an adequate number of oppositely mounted upper and lower rollers to ensure a firm though smooth rollable engagement with its rail.

32. Equipment as claimed in claim 31 in which each runner is fitted with two overhead rollers defining the upper boundary of the railage path and a bottom roller forming the lower boundary.

33. Equipment as claimed in claim 32 in which each runner is in the form of a saddle-like rail engaging formation fitted with cylindrical rollers spaced to define the railage path there along while the rails present appropriate rectangular end profiles to enable snug engagement of the runners along their rails.

34. Equipment as claimed in claim 29 in which the locking facility is in the form of shear pins releasably locking the runners to the rails in the regions of their trailing ends at least once the equipment is operatively installed if not integrally forming part of a vehicle.

35. Equipment as claimed in claim 29 in which each rail is fitted with a stopper pin defining the position of stoppage there along.